

What is claimed is:

1. A vehicle, comprising:

a frame structured to support at least two wheels;

5 a seat assembly; and

a rail clamp attachable to the seat assembly and slidably connected to a portion of the frame, the rail clamp including a pair of rail pads for clamping against the frame.

10 2. The vehicle of claim 1 wherein the rail pads are removably attached to the rail clamp.

3. The vehicle of claim 1 wherein the rail clamp further comprises:

15 a fixed portion and a movable portion; and

a handle coupled to the movable portion.

4. The vehicle of claim 3 wherein the handle of the rail clamp is attached to the movable portion in a cantilevered arrangement.

20 5. The vehicle of claim 1 wherein the rail clamp further comprises:

a fixed portion and a first and second movable portion;

25 a handle coupled to the movable portions and including a first pivot coupled at the first movable portion and a second pivot; and

a cantilever attachment coupled between the second pivot and a third pivot at the second movable portion.

30 6. The vehicle of claim 5 wherein the handle is generally "L" shaped.

7. The vehicle of claim 5 wherein the rail pads are removably attached to respective movable portions.

5 8. The vehicle of claim 1, further comprising:  
one or more side rails coupled to the portion of the frame adjacent the rail clamp.

9. The vehicle of claim 8 wherein the one or more side rails are  
10 knurled.

10. The vehicle of claim 9 wherein the rail pads are knurled and structured to interfere with the knurlings on the one or more side rails when the rail clamp is in a closed position.

15 11. The vehicle of claim 8 wherein the side rails are formed of anodized aluminum.

12. The vehicle of claim 1 wherein the rail pads are formed of  
20 aluminum.

13. A rail clamp, comprising:  
a rigid body structured to slide longitudinally over a frame when the rail clamp is in an unclamped position;  
25 at least one moveable portion coupled to the body;  
a pad coupled to the moveable portion and structured to be pressed against such a frame when the clamp is in a clamped position; and  
a handle coupled to the moveable portion and structured to operate from one side of the rigid body.

14. The clamp of claim 13 wherein the pad is removably attached to the moveable portion.

15. The clamp of claim 13 wherein the handle of the rail clamp is attached to the movable portion in a cantilevered arrangement.

16. The clamp of claim 13 wherein the rail clamp further comprises:

a first pivot coupled to a first moveable portion;  
a second pivot coupled to a second moveable portion;  
a cantilever bracket coupled between the second pivot and a third pivot; and  
the handle coupled to both the first pivot and the third pivot.

17. The clamp of claim 13 wherein the movable portion comprises a first and a second portion, and further comprising a second pad coupled to the second moveable portion.

18. The clamp of claim 13 wherein the pad is knurled.

19. The clamp of claim 13 wherein the pad is structured to interface with a non-planer surface of the frame.

20. A bicycle, comprising:

a frame to which wheels are attached;  
a seat structure; and  
a tilt apparatus coupled to the seat structure; the tilt apparatus attached to the frame and including a tilt adjustment structured to be operated while the bicycle is in motion.

21. The bicycle of claim 20, wherein the tilt apparatus comprises:  
a frame having a generally elongated shape and including a pivot  
end and an end having a slot;

a slider structured to move within the slot; and

5 a pivot bar having a first end and a second end, the first end coupled  
to the slider, and the second end structured to be held a fixed distance  
from the pivot end of the frame.

22. The bicycle of claim 21 wherein the slider has a threaded hole  
10 formed therethrough.

23. The bicycle of claim 22, further comprising:  
a captured bolt held within the frame and structured to fit within  
the threaded hole of the slider.

15 24. The bicycle of claim 21 wherein the slider is aluminum bronze.

25. A seat for a vehicle, comprising:  
a frame having horizontal and vertical portions;  
20 a backrest coupled to the vertical portion of the frame;  
a seat cushion coupled to a first side of the horizontal portion of the  
frame; and

a tilting apparatus coupled to a second side of the horizontal portion  
of the frame, the tilting apparatus further structured to be coupled to the  
25 vehicle.

26. The seat of claim 25 wherein the cushion comprises:

a rigid base;

a foam core; and

30 an air bladder surrounding the foam core.

27. The seat of claim 26, further comprising an air valve coupled to the air bladder and structured to let air enter into or escape from the air bladder.

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28. The seat of claim 27, further comprising an outer cover covering the air bladder.

29. The seat of claim 27, wherein the rigid base includes a hole for  
10 accepting the air valve therethrough.

30. A steering pivot for a vehicle, comprising:  
an upper pivot connected to a steering mechanism;  
a lower pivot connected to a steering member;  
15 a connection sleeve inserted within the upper pivot and lower pivot  
and supporting both pivots;  
a bearing slidably coupled to the connection sleeve; and  
a friction disk communicating with the connection sleeve and  
mounted between the upper pivot and the lower pivot.

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31. The steering pivot of claim 30, further comprising an engaging mechanism structured to force the upper pivot toward to lower pivot.

32. The steering pivot of claim 31, wherein the engaging  
25 mechanism is structured to cause both the upper pivot and the lower pivot  
to compress opposite surfaces of the friction disk.

33. The steering pivot of claim 30, further comprising a washer disposed between the upper pivot and the friction disk.

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34. The steering pivot of claim 30 wherein the steering disk comprises a brake lining material.

35. The steering pivot of claim 30 wherein the bearing comprises a  
5 lubricant impregnated polymer.

36. A method of assembling a steering pivot, comprising:  
aligning an opening of a first pivot body with an opening of a second  
pivot body;  
10 placing a friction disk between the aligned openings;  
inserting a sleeve through the first pivot body, through the friction  
disk, and through the second pivot body;  
sliding a bearing between an outside surface of the sleeve and an  
inside surface of one of the pivot bodies; and  
15 forcing the first pivot body toward the second pivot body.

37. The method of claim 36, wherein forcing the first pivot body  
toward the second pivot body comprises:  
attaching a first cap to the first pivot body;  
20 attaching a second cap to the second pivot body;  
attaching a threaded member between the first and second caps; and  
turning a compression adjuster that is threadedly engaged with the  
threaded member.

38. The method of claim 36, wherein placing a friction disk  
25 comprises placing a friction disk comprising brake lining material between  
the aligned openings.

39. The method of claim 36 wherein sliding a bearing comprises sliding a polymer bearing between an outside surface of the sleeve and an inside surface of one of the pivot bodies.

5           40. A vehicle, comprising:

a frame structured to support at least two wheels;

a seat assembly;

a rail clamp attachable to the seat assembly and slidably connected to a portion of the frame, the rail clamp including a pair of rail pads for  
10 clamping against the frame;

a tilt mechanism coupled to the seat assembly and to the rail clamp; the tilt mechanism including a tilt adjustment structured to be operated while the bicycle is in motion; and

a steering pivot including:

15           a pair of pivots coupled by a connection sleeve,

a bearing slidably coupled to the connection sleeve, and

a friction disk communicating with the connection sleeve and mounted between the pair of pivots.

20           41. The vehicle of claim 40 wherein the rail clamp includes a cantilever handle.

42. The vehicle of claim 40 wherein the rail pads are positioned to clamp against a set of frame rails that are attached to the frame.

25           43. The vehicle of claim 40 wherein the rail pads and the frame rails are knurled.